

Various noteworthy records of flowering plants in Cyprus (1996–2019) and some status clarifications

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Abstract. – This paper deals with specimen-based records of 33 taxa, most of them having a scattered occurrence or restricted distribution range in Cyprus. The following taxa are new to Cyprus or have been documented by specimens for the first time: *Artemisia verlotiorum*, *Atriplex suberecta*, *Cardamine occulta*, *Catharanthus roseus*, *Erigeron sumatrensis*, *Euphorbia graminea* and *Solanum lycopersicum*. The recently found *Cenchrus setaceus*, already problematic as invasive outside Cyprus, seems to spread quickly on the island and should be given particular consideration.

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Introduction

This paper is a continuation of a series started three years ago (Hand 2017, 2019), in which the intention and criteria for the selection of taxa and data were outlined. The new instalment again focusses on taxa new for Cyprus, taxa with a very scattered distribution on the island or taxa with restricted distribution range in a single or few phytogeographical divisions. In various cases occurrence status is clarified.

Material and Methods

Taxonomy and nomenclature follow Hand & al. (2011–) and herbarium abbreviations Thiers (2020). First records for any phytogeographical unit are marked with a "+". Plants listed in the Red Data Book are marked with the abbreviation RDB followed by the status, which is explained in full detail by Tsintides & al. (2007). Known data on distribution of taxa in Cyprus are not repeated here but can be found in the online checklist for Cyprus (Hand & al. 2011–), which aims at a complete recording of specimen-based records. Georeferenced data are not presented here but are stored in a database. They will be published at a later date making them accessible via the above-mentioned website.

Results

Spermatophyta

Apocynaceae

***Catharanthus roseus* (L.) G. Don**

+ Division 1: Pafos, Ktima, bishopric area, E side of Agios Theodoros cathedral, 1 individual in pavement crack, alt. 74 m, 24.12.2019, R. Hand 9346 (CYP).

First record for Cyprus. This finding does not come as a surprise. Madagascar periwinkle, an endemic of the eponymous island, belongs to the group of very popular

ornamental and medicinal plants in subtropical and tropical regions worldwide. It is widely grown in gardens and pots in Cyprus, escapes here and there but has never been documented in detail. To be classified as 'Casual' as in other parts of the Mediterranean, e. g. Catalonia (Spain; Aymerich & Sáez 2019).

Asteraceae

***Artemisia verlotiorum* Lamotte**

+ Division 1: Chlorakas, N of Dimma road between coastal road and Akti beach area, margin of vegetable field, alt. 29 m, 23.12.2019, *R. Hand 9344* (CYP).

First record for Cyprus. It cannot be ruled out, that the originally E Asian plant may be a relict of former trial cultivation for medicinal purposes. However, it behaves like a weed now and has started to spread vegetatively. Various other taxa have been mixed up with *A. verlotiorum* in the Euro-Mediterranean region. The following sources provide useful descriptions, keys and illustrations of the relevant species: Sîrbu & Oprea 2011, Verloove 2013, Verloove & Andeweg 2020. *A. verlotiorum* seems to be uncommon in the E Mediterranean. There are, e. g., no records in Israel with its rich and well documented alien flora (Danin & Fragman-Sapir 2016–) and only local occurrences in Greece (Dimopoulos & al. 2013) and Turkey (Davis 1988). Currently, in Cyprus to be classified as 'Casual'.

***Erigeron sumatrensis* Retz.** (Syn.: *Conyza albida* Spreng., *E. albidus* (Spreng.) Herter)

+ Division 2: Gialia, Gialia valley below junction at water tank, by road on banks, alt. 116 m, 19.12.2019, *R. Hand 9333* (CYP).

First documented record for Cyprus. The alien species has been mentioned for Cyprus already in the checklist by Hadjikyriakou (1997) but specimen-based records were never published. In the above mentioned valley scattered plants have been found and the species is well established, at least locally. It may be more widespread in the wider Troodos area and may often be confused with *E. bonariensis* L. and *E. canadensis* L. However, the latter two species are much more common in Cyprus. *E. sumatrensis*, originally a S American taxon, can be found now in many Euro-Mediterranean countries, e. g. in neighbouring Israel, where its distribution is rather well known compared to other Levantine regions (Danin & Fragman-Sapir 2016–). For the time being to be classified as a naturalised non-invasive.

Boraginaceae

***Buglossoides incrassata* subsp. *splitgerberi* (Guss.) E. Zippel & Selvi**

+ Division 4: Athienou, by road to Avdellero, N of ridge with windfarm, field margin, alt. 225 m, 1.4.2019, *R. Hand 9254* (CYP).

+ Division 5: Dali, NE side of ancient Idalion, open, ruderal place, alt. 265 m, 25.3.2019, *R. Hand 9217* (CYP).

Brassicaceae

***Aethionema arabicum* (L.) DC.** – RDB: VU

Division 5: Mathiatis, a few m N of Gialias bridge, W side of stream, on fine pillow lava debris of a slope, alt. 350 m, 25.03.2019, *R. Hand* 9222 (CYP).

***Cardamine occulta* Hornem.**

+ Division 1: Kissonerga, garden centre on road to Chlorakas, scattered as weed in flower pots but has started to colonise the ground, alt. 87 m, 19.12.2019, *R. Hand* 9334 (CYP).

First record for Cyprus. In recent years, there has been prolific writing about taxonomy and nomenclature on this originally E Asian species. Situation seems to be settled now and it needs only to be referred to the treatment by Šlenker & al. (2018) which summarises all relevant literature. It also provides an identification key and illustrations for *C. occulta* and related taxa. For the time being, to be classified as "Casual".

***Diplotaxis muralis* (L.) DC.**

Division 1: Pafos, Mouttallos, S side of new Mouttallos square, 2 individuals as weeds in flowerbed, alt. 71 m, 26.12.2019, *R. Hand* 9347 (CYP).

A still rather rare alien species in Cyprus and locally naturalised in the Pafos area only where it was first documented by Della & Iatrou (1995).

Caryophyllaceae

***Silene tridentata* Desf.**

+ Division 4: Achna, E side of Achna reservoir, WSW of Agios Georgios, grassy place by track, alt. 46 m, 26.3.2019, *R. Hand* 9224 (CYP).

Chenopodiaceae

***Atriplex suberecta* I. Verd.**

+ Division 4: Larnaka, at airport, SW of roundabout, waste ground, alt. 10 m, 16.4.2014, *R. Hand* 6438 (B). – Kamares Larnakas, margins of marshy place, alt. 1 m, 6.5.2017, *G. Hadjikyriakou* 7539 (B, herb. Hadjikyriakou).

First records for Cyprus. The earlier gathering was first mistaken. In the second case, material could not be identified with any other *Atriplex* known from Cyprus. Finally, both specimens proved to belong to *A. suberecta*, an originally Australian species. There are documentations of more or less established populations in various Euro-Mediterranean countries such as Spain (Castroviejo 1990) and France (Tison & de Foucault 2014). However, the nearest occurrences can be found in Israel and Jordan where it has already colonised large parts of the country as regards the former (Danin & Fragman-Sapir 2016–). Small populations have been observed at the above men-

tioned places in the Larnaka region. For the time being to be classified as naturalised non-invasive.

***Beta macrocarpa* Guss.**

+ Division 4: Sotira, S side of Paralimni lake, wet, grassy place close to shore, alt. 65 m, 3.4.2019, R. Hand 9266 & K. Kefalas (CYP).

***Bassia indica* (Wight) A. G. Scott**

+ Division 1: Chlorakas, near entrance of Azia Hotel, in pavement crack, alt. 15 m, 20.12.2019, R. Hand 9337 (CYP).

***Chenopodium striatiforme* Murr**

Division 1: Pafos, Kato Pafos, harbour, a few m E of castle, among protection rock blocks, alt. 1 m, 22.12.2019, R. Hand 9340 (CYP).

Still much overlooked in Cyprus. At least in division 1, this species is a relatively regular component of ruderal plant associations of the coastal strips, often growing together with *Salsola tragus* L. It flowers and sets fruits quite late in the season (late summer up to late December/early January) but its typical tumbleweed habit and the more or less entire, relatively short leaves with usually reddish margins characterise it in the field sufficiently (for further characters see Uotila 2001). Rarely, the tumbleweed habit is somewhat modified towards a more pyramidal structure of the plant, e. g. on rocky ground as in the above mentioned population.

***Chenopodium urbicum* L.** (Syn.: *Oxybasis urbica* (L.) S. Fuentes & al.)

Division 1: Evretou, below village, close to mosque, by the bank of Evretou reservoir, alt. 144 m, 21.12.2019, R. Hand 9339 (CYP).

At the site c. 20 individuals were seen for a distance of 100 m but the population may have been bigger in 2019; the rising water level probably destroyed various plants. The species was found first in 1999 in the area (Hadjikyriakou & al. 2004). As several other aquatic or more or less hygrophilous taxa in Cyprus it totally depends on the man-made water-reservoirs constructed from the 20th century onwards. In this way, various types of habitats have been created that did not exist before on the island. The plant seems to be restricted to the muddy margins exposed by sinking water level. Colonisation most probably happened by ornithochory. Evretou reservoir is much visited by migrating waterbirds and waders. However, the species can be classified now as a naturalised non-invasive (see fig. 1).

Salsola tragus* L. subsp. *tragus

Division 1: Pafos, Ktima, near SE edge of municipal gardens, ruderal site, alt. 81 m, 26.12.2018, R. Hand 9216 (B).

A common taxon but so far specimen-based records have been published only from near sea-level areas. Taxonomy of the group again is in flux, especially as regards E Mediterranean taxa (see Mosyakin 2017).



Fig. 1: *Chenopodium urbicum*, Evretou, part of an infructescence, 27.12.2019. – Andreas Charalambous.

Convolvulaceae

***Calystegia sepium* (L.) R. Br.**

+ Division 1: Lemba, by stream N of Azia Hotel, a few m above its mouth, climbing on reeds, alt. 2 m, 20.12.2019, *R. Hand 9338* (CYP).

***Ipomoea imperati* (Vahl) Griseb.** – RDB: EN

+ Division 1: Lempa, by coast NNW of Azia Hotel, sandy beach at mouth of stream, alt. 1 m, 14.12.2019, *R. Hand 9326* (CYP).

Already mentioned for this division in the Red Data Book for the neighbouring Kato Pafos (Tsintides & al. 2007) but no specimen-based records have been published so far.

Euphorbiaceae

***Euphorbia chamaepeplus* Boiss. & Gaill.** – RDB: DD

+ Division 4: Oroklini, NNW of village, W of chapel Agios Thomas, terraced slope, afforested area with phrygana, alt. 64 m, 29.3.2019, *R. Hand 9239* (CYP). – Athienou, by road to Avdellero, N of ridge with windfarm, phrygana, alt. 235 m, 1.4.2019, *R. Hand 9253* (CYP).

***Euphorbia graminea* Jacq.**

+ Division 1: Chlorakas, SE part of cemetery, as a weed between graves, alt. 89 m, 22.12.2019, *R. Hand 9341* (CYP).

First record for Cyprus. The past years saw numerous publications on this originally C and S American species which is now spreading to various parts of the subtropics and tropics worldwide. It can be referred to papers on the first European and Italian record (Scafidi & al. 2016) and on the first record for Taiwan (Yang & al. 2005) which provide detailed descriptions, illustrations and information on the worldwide spread of this more or less invasive taxon. Closer to Cyprus, it is already known from Israel (Danin & Fragman-Sapir 2016–). At the above mentioned site in Cyprus less than ten plants were counted, most probably spread with potting soil or potted plants. To be classified as 'Casual'.

***Euphorbia heterophylla* L.**

+ Division 1: Chlorakas, Akti beach area, close to open air fitness area, as a weed in irrigated gardens, alt. 4 m, 15.12.2019, *R. Hand 9329* (CYP). See fig. 2.

***Euphorbia prostrata* Aiton**

+ Division 1: Chlorakas, garden c. 200 m from house at Makariou Avenue 119 towards Empa, open ground in citrus grove, alt. c. 50 m, 5.10.1996, *R. Hand 1134*, det. A. H. Pahlevani (B). – *ibid.*, at the church Agios Georgios near the coast, garden, alt. c. 30 m, 26.4.1999, *R. Hand 2902*, det. A. H. Pahlevani (B). – Pegeia, S-Seite der Kirche, Ritzen

am Mauerfuß [S side of church, crevices at wall base], alt. 170 m, 5.10.1998, K. P. Buttler 32376 & A. Diguët, det. A. H. Pahlevani (B).

The alien taxon is known to occur in Cyprus since at least a quarter of a century and has spread over large parts of the lowlands, though still rarely documented by specimens (for details see Frajman in Hand 2011). It must be classified from now on as naturalised invasive.



Fig. 2: *Euphorbia heterophylla*, Chlorakas, fruiting plant, 15.12.2019. – Ralf Hand.

Euphorbia serpens* Kunth subsp. *serpens

+ Division 1: Chlorakas, at the Atlantica Golden Bay Hotel, rocky beach, alt. c. 1 m, 27.8.2003, A. Charalambous in R. Hand 3936, det. A. H. Pahlevani (B). – *ibid.*, new park by coastal road between Baracas cafe and Azia Hotel, irrigated area, alt. 10 m, 20.12.2019, R. Hand 9336 (CYP).

+ Division 4: Achna, at SE tip of reservoir, open, dried ground, alt. 28 m, 2.10.2010, R. Hand 5770 (B).

Still less common than the previous taxon and probably introduced later to Cyprus (see also Frajman in Hand 2011). The current status as naturalised non-invasive is still valid.

Fabaceae

***Vicia johannis* Tamamsh.**

+ Division 3: Trozena, slope S/above church, limestone debris, open patches, alt. 467 m, R. Hand 9258 (CYP).

+ Division 7: Kalograia, SW of Antifonitis monastery, on forest road to Halevga, near water-tank, among rocks, alt. 425 m, 4.4.2019, *R. Hand 9275 & G. Hadjikyriakou 9275* (CYP).

Orobanchaceae

***Orobanche aegyptiaca* Pers.**

+ Division 1: Chlorakas, between coastal road and Akti coast area, W of Dimma road, as weed in *Eruca sativa* field and probably parasitising this vegetable, alt. 28 m, 16.12.2019, *R. Hand 9331*, conf. S. Rätzel (CYP).

Papaveraceae

***Papaver gracile* Boiss.**

+ Division 3: Agios Theodoros, SSE village, by road, alt. 47 m, 11.4.2014, *C. Makris* (B).

Poaceae

***Alopecurus utriculatus* Banks & Sol. – RDB: VU**

Division 4: Egkomi, S of village, between two roads to Ammochostos, Chali site, on small rocky bank above Gialias riverbed, alt. 16 m, 4.4.2019, *R. Hand 9267 & G. Hadjikyriakou* (CYP).

***Cenchrus setaceus* (Forssk.) Morrone s. l. (Syn.: *Pennisetum setaceum* (Forssk.) Chiov.)**

Division 1: Pegeia, lower section of new bypass road E 709 W of town, road side, alt. 130 m, 23.12.2019, *R. Hand 9342* (CYP).

The first record of this species, listed as invasive by the European Union, has been dealt with in the previous instalment of this series (Hand 2019). The prediction made there seems to apply earlier than expected. In December 2019, the problematic plant was also seen at Empa (road by high school), at Kissonerga (coastal road) as well as near to Petra tou Romiou (gorge below coastal road). The latter case demonstrates that it is already able to colonise places away from settlements. It was found there in a small gorge in an area with serpentine bedrocks and sparse phrygana vegetation, accompanied by the alien shrub *Lantana camara* L., another increasingly escaping garden species. *C. setaceus* is offered in many nurseries, widely planted in Cyprus along roads, in private gardens and public parks.

***Schismus arabicus* Nees**

+ Division 4: Egkomi, S of village, between two roads to Ammochostos, Chali site, above Gialias riverbed, waste ground, alt. 18 m, 4.4.2019, *R. Hand 9268 & G. Hadjikyriakou* (CYP).

Rosaceae

***Rubus* aff. *armeniacus* Focke**

+ Division 2: Gerakies, W end of village, forest road above village not far from Ariadni trail, on a bank in *Pinus brutia* forest, alt. 990 m, 13.6.2018, *R. Hand* 8993, rev. G. Matzke-Hajek (CYP).

The *Rubus* flora of Cyprus is poor in species. Apart from the widespread indigenous *R. sanctus* Schreb. only the alien *R. discolor* Weihe & Nees has been documented so far (Hand & al. 2011–, Della & Iatrou 1995). The above mentioned specimen, collected from a single, weakly developed plant proved to be close to *R. armeniacus*, an invasive species in many countries, but further material is required to accept this taxon for Cyprus. Naturalisation of cultivated Rubi, namely in the Troodos range needs more attention.

Rubiaceae

***Galium divaricatum* Lam. – RDB: VU**

+ Division 3: Mazotos, SE of village centre, by small road N of main road E 321, road bank, alt. 13 m, 27.3.2019, *R. Hand* 9228 (CYP).

Saxifragaceae

***Saxifraga tridactylites* L.**

Division 3: Alampira, SE of Lympia dam wall, periodically wet place between rocky hills, alt. 225 m, 28.3.2019, *R. Hand* 9236 (CYP).

Rather rare in the lowlands of Cyprus. The place in question lies at the lower limit of its altitudinal range.

Solanaceae

***Physalis angulata* L.**

+ Division 1: Chlorakas, Akti beach area, close to open air fitness area, as weed in irrigated gardens, alt. 4 m, 15.12.2019, *R. Hand* 9330 (CYP).

Contrary to the situation in division 3 (see Hand 2019) a casual only in the above mentioned site.

***Solanum lycopersicum* L.**

+ Division 3: Foinikas, by the bank of Asprokremmos reservoir SW of village, a few m above water level, alt. 87 m, 20.12.2019, *R. Hand* 9335 (CYP).

As elsewhere in the Euro-Mediterranean region a casual escape in Cyprus. Tomato is not popular in collectors so that no specimen data have ever published for the island. However, it can be found here and there along the wet edges of reservoirs and in similar situations on moist soil.

Verbenaceae

***Phyla nodiflora* (L.) Greene.** – RDB: VU

Division 3: Akrounta, W margin of Germasogeia reservoir, level of conspicuous road bend, dry bottom of reservoir, a few m above water-level, alt. 71 m, 24.12.2018, R. Hand 9204 (B).

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